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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* JAMES MATTHEW HITCH

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Appeal 2008-5093  
Application 10/812,457  
Technology Center 1700

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Decided: December 23, 2008

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Before BRADLEY R. GARRIS, CATHERINE Q. TIMM, and  
MICHAEL P. COLAIANNI, *Administrative Patent Judges*.

TIMM, *Administrative Patent Judge*.

DECISION ON APPEAL  
STATEMENT OF THE CASE

Appellant appeals under 35 U.S.C. § 134(a) from the Examiner's decision rejecting claims 1-8, 14, and 15. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

The invention relates to a nonwoven mat and a laminate made therefrom. The mat has a smooth surface for the application of a coating thereon. (Spec. 1, ll. 3-9; 5, ll. 17-19). The mat is made from glass fibers provided in a combination of shorter and longer fibers for optimum smoothness and minimal cost. (Spec. 3, ll. 1-9). Claim 1 is illustrative of the subject matter on appeal:

1. A nonwoven fibrous mat having a smooth surface for coating, the smooth surface having a reduced amount of "stand up fibers" comprising a blend of fibers of at least two different lengths falling within the range of about 0.12 inch and about 0.6 inch bound together with a cured binder, the binder content of the mat being in the range of about 10-25 weight percent of the finished mat, the fibers having an average fiber diameter in the range of about 9 and about 14 microns and about 25 to about 50 wt. percent fibers having a length of less than about 0.4 inch long and about 75 to about 50 wt. percent fibers having a length at least about 0.45 inch long.

The Examiner maintains the following rejections:

1. Claims 1-8, 14, and 15 rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement;
2. Claims 1-8, 14, and 15 rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention; and
3. Claims 1-8, 14, and 15 rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Patent Application Publication No. 2003/0054714, published March 20, 2003, in the name of Peng et al. (hereinafter "Peng").<sup>1</sup>

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<sup>1</sup> In addition to the two rejections under 35 U.S.C. § 112 indicated above, the Final Office Action, mailed March 21, 2006, contained the following

Since no claims are argued separately from the others, we decide each ground of rejection on the basis of representative independent claim 1. *See* 37 C.F.R. § 41.37(c)(1)(vii) (“When multiple claims subject to the same ground of rejection are argued as a group by appellant, the Board may select a single claim from the group of claims that are argued together to decide the appeal with respect to the group of claims as to the ground of rejection on the basis of the selected claim alone.”).

## II. FIRST REJECTION

### A. ISSUE ON APPEAL

The Examiner contends that the Specification as originally filed does not provide support for the limitation “about 25 to about 50 wt. percent fibers having a length of less than about 0.4 inch long and about 75 to about 50 wt. percent fibers having a length at least about 0.45 inch long.” (Ans. 3 and 6). However, Appellant contends that the Specification provides adequate written description to support this claim limitation.

Thus, a first issue on appeal arising from the contentions of Appellant and the Examiner is: has the Examiner shown that the Specification lacks

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rejections: (a) claims 1-8, 14, and 15 rejected under 35 U.S.C. § 102(b) as anticipated by Peng; and (b) claims 3, 4, 7, 8, 14, and 15 rejected under 35 U.S.C. § 103(a) as being obvious over Peng. The Examiner explicitly withdrew the rejection under 35 U.S.C. § 102(b) in favor of the new ground of rejection under 35 U.S.C. § 103(a) indicated above. Although the Examiner did not specifically mention the rejection of claims 3, 4, 7, 8, 14, and 15 under 35 U.S.C. § 103(a), we consider this rejection to be maintained via incorporation into the above rejection of claims 1-8, 14, and 15 under 35 U.S.C. § 103(a). Although Appellant’s Reply Brief indicates that the rejection of claims 3, 4, 7, 8, 14 and 15 is separately maintained (Reply Br. 2, 5 and 9), Appellant understands that the rejection is incorporated because the Appellant’s arguments are directed to the rejection of claims 1-8, 14, and 15 under 35 U.S.C. § 103(a). (Reply Br. 9).

adequate written description to support the claim limitation of “about 25 to about 50 wt. percent fibers having a length of less than about 0.4 inch long and about 75 to about 50 wt. percent fibers having a length at least about 0.45 inch long”?

## B. FACTUAL FINDINGS

The following Findings of Fact (FF) are relevant to the above identified issue on appeal:

1. Appellant’s Specification states that “[p]referably a major portion of the fiber is at least about 0.45 inch long and a minor portion of the fiber is shorter than about 0.4 inch.” (Spec. 3, ll. 11-12).

2. Example 2 of Appellant’s Specification states that “[t]he fiber blend contained about 75 wt. percent one-half inch long H137 fibers and about 25 wt. percent H137 fibers that were about 0.2 inch long.” (Spec. 7, ll. 4-6).

3. Example 3 of Appellant’s Specification also states that “the fiber blend contained about 50 wt. percent H137 fibers having a length of about 0.5 inch long and about 50 wt. percent H137 fibers that were about 0.2 inch long.” (Spec. 7, ll. 14-16).

4. Appellant’s Specification defines the word “about” as varying “some beyond that so long as the advantages of the invention are realized” and that “the disclosed results of the invention might extend, at least somewhat, beyond one or more of the limits disclosed.” (Spec. 3, l. 29-4, l. 2).

## C. PRINCIPLES OF LAW

The Specification need not disclose the exact range recited in the claim in order to satisfy the written description requirement. *See In re*

*Wertheim*, 541 F.2d 257, 265 (CCPA 1976)(“The PTO has done nothing more than to argue lack of literal support, which is not enough.”); *Ralston Purina Co. v. Far-Mar-Co., Inc.*, 772 F.2d 1570, 1575 (Fed. Cir. 1985)(rejecting the notion that ranges found in the applicant’s claim language must correspond exactly to ranges disclosed in the specification). Rather, a disclosure is sufficient when, as a factual matter, persons skilled in the art would consider the claimed range as part of the appellant’s invention. *See Wertheim*, 541 F.2d at 265 (“we are of the opinion that, as a factual matter, persons skilled in the art would consider processes employing a 35-60% solids content range to be part of appellants’ invention and would be led by the Swiss disclosure so to conclude.”); *See also Union Oil Co. of California v. Atlantic Richfield Co.*, 208 F.3d 989, 997 (Fed. Cir. 2000)(“the description must clearly allow persons of ordinary skill in the art to recognize that [he or she] invented what is claimed.”)(quoting *In re Gosteli*, 872 F.2d 1008, 1012 (Fed. Cir. 1989)).

For Example, our reviewing court has determined that an adequate written description was provided where the claimed range was narrower than the disclosed range, when an endpoint of the narrower range was additionally disclosed. *Kolmes v. World Fibers Corp.*, 107 F.3d 1534, 1539 (Fed. Cir. 1997)(adequate description found for claimed range of 8-12, with range of 4-12 disclosed and 8 being disclosed as preferred); *see also In re Blaser*, 556 F.2d 534, 538 (CCPA 1977)(adequate description found for claimed operating temperature range of 80°C to 200°C, with operating temperature range of 60°C to 200°C disclosed and a disclosure of initially mixing the starting materials at 80°C).

#### D. ANALYSIS

The term “major portion” commonly means a range of greater than 50% and less than 100%, and the term “minor portion” commonly means a range of greater than 0% to less than 50%. (FF 1). The use of “major” and “minor” would seem to convey, in the absence of evidence to the contrary, that Appellant’s invention included a broad range of long fiber concentrations above 50% and a broad range of shorter fiber concentrations less than 50%.

The use of the word “about” conveys that the ranges are even more inclusive. To one of ordinary skill in the art, the phrase “about 50 wt. percent,” as claimed, means somewhat greater than or somewhat less than 50 weight percent, which broadens the claimed range beyond the “minor portion” and “major portion” ranges otherwise disclosed, particularly in light of the definition of the word “about” provided by the Appellant. (FF 4).

Moreover, Example 3 further conveys that the “about 50%” endpoints were within Appellant’s invention. (FF 2). While Example 2 conveys that narrower endpoints of “about 25 wt. percent” and “about 75 wt. percent” were also contemplated by Appellant. (FF 3).

Therefore, the claimed ranges of “about 25 to about 50 wt. percent fibers having a length of less than about 0.4 inch long and about 75 to about 50 wt. percent fibers having a length at least about 0.45 inch long,” ranges that are narrower than the major/minor disclosure and including exemplified endpoints within the broader major/minor disclosure, appear to have been fiber concentrations contemplated by Appellant. The Examiner has not provided an adequate level of evidence indicating that the more narrowly claimed ranges represent an inventive concept outside that possessed by

Appellant. Accordingly, we cannot sustain the Examiner's rejection of claims 1-8, 14, and 15 under 35 U.S.C. § 112, first paragraph.

### III. SECOND REJECTION

#### A. ISSUES ON APPEAL

Appellant contends that Appellant's Specification provides a clear meaning to the phrase "reduced amount of 'stand up fibers,'" as recited in claim 1. (App. Br. 7). The Examiner contends that the phrase "reduced amount" is indefinite because "it is not clear to what the claimed invention is being compared" and because "it is not clear what value of stand up fibers would be a reduced amount." (Ans. 6).

Thus, a second issue on appeal arising from the contentions of Appellant and the Examiner is: does the Specification adequately clarify what is meant by the phrase "reduced amount of 'stand up fibers'"?

#### B. FACTUAL FINDINGS

The following additional Findings of Fact are relevant to the above identified issue on appeal:

5. Appellant's Specification describes the prior art as having a "small amount of 'stand up' fibers that are undesirable." (Spec. 2, ll. 9-10).

6. However, Appellant's Specification does not indicate the extent or degree of stand up fibers that constitute a "small amount" or that constitute an undesirable amount. (*See Spec. generally*).

7. Appellant's Specification also describes the desire for "fewer 'stand up' fibers" such that "substantially less coating material would be required." (Spec. 2, ll. 22-24).



8. Appellant's Specification does not indicate the extent or degree that constitutes "fewer 'stand up' fibers" or the extent or degree to which the coating material may be reduced. (*See Spec. generally*).

9. Appellant's Specification describes using fibers in a combination of lengths "to optimize smoothness and cost...while at the same time minimizing the amount of 'stand up' fibers." (Spec. 3, ll. 5-9).

10. However, Appellant's Specification does not indicate the extent or degree to which the stand up fibers are minimized. (*See Spec. generally*).

11. In comparing Example 2 (inventive example) to Example 1 (conventional and control example), Appellant's Specification states that "[t]his mat also appeared to have a smoother surface than the mat of Example 1" and that "the thickness of the coating could possibly be reduced versus the coating on the mat made in Example 1." (Spec. 7, ll. 8-10).

12. The comparison between Examples 1 and 2 does not address "stand up" fiber content. (Spec. 7, ll. 8-10).

13. The "smoother surface" of Example 2 is a subjective observation; no data was provided as evidence of a smoother surface. (Spec. 7, ll. 8-10).

14. Appellant's Specification does not suggest that a coating operation was attempted or that a successful reduction in coating was achieved. (Spec. 7, ll. 8-10).

15. Regarding Example 3 (inventive example), Appellant's Specification states that "[t]he finished mat . . . had substantially fewer 'stand up' fibers and a smoother surface than the mat of Example 2." (Spec. 7, ll. 17-19).

16. Appellant's Specification does not indicate any comparison between Example 3 and Example 1. Rather, Example 3 was only compared to Example 2, both of which fall within the scope of the claimed invention. (Spec. 7, ll. 17-19).

17. The reference to "fewer 'stand up' fibers" of Example 3 does not indicate the extent or degree to which the mat of Example 3 has fewer stand up fibers. (Spec. 7, ll. 17-19).

#### C. PRINCIPLES OF LAW

"The legal standard for definiteness [under the second paragraph of 35 U.S.C. § 112] is whether a claim reasonably apprises those of skill in the art of its scope." *In re Warmerdam*, 33 F.3d 1354, 1361 (Fed. Cir. 1994). "[T]he definiteness of claim terms depends on whether those terms can be given any reasonable meaning." *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1347 (Fed. Cir. 2005).

In a situation involving a relative claim expression, the Specification must provide some standard for defining or measuring its meaning. *Seattle Box Co. v. Industrial Crating & Packing, Inc.*, 731 F.2d 818, 826 (Fed. Cir. 1984)("[w]hen a word of degree is used [the issue is] whether the patent's specification provides some standard for measuring that degree."); *See also Datamize*, 417 F.3d at 1350 ("Some objective standard must be provided in order to allow the public to determine the scope of the claimed invention.").

While mathematical values are not necessary, Appellant must claim the invention in terms that would be understood by persons of skill in the field of the invention. *Exxon Research & Eng. Co. v. U.S.*, 265 F.3d 1371, 1381 (Fed. Cir. 2001); *Modine Mfg. Co. v. U.S. Int'l Trade Comm'n*, 75 F.3d 1545, 1557 (Fed. Cir. 1996).

D. ANALYSIS

Neither the description nor the examples of Appellant's Specification provides a standard for measuring the degree of scope encompassed by the phrase "reduced amounts of 'stand up' fibers" in claim 1. (FF 5-17). Even in light of the Specification, one of ordinary skill in the art would be unable to ascribe a reasonably definite meaning to this claim phrase and would be unable to compare amounts of 'stand up' fibers in a mat to ascertain if the amounts are in fact "reduced".

As such, the Specification does not adequately clarify what is meant by the term "reduced amount of 'stand up fibers.'" Therefore, we sustain the Examiner's rejection of claims 1-8, 14 and 15 under 35 U.S.C § 112, second paragraph.

IV. THIRD REJECTION

A. ISSUES ON APPEAL

Appellant contends that Peng does not teach or suggest the weight percentage range of longer and shorter fibers recited in claim 1, and the Examiner has not provided an adequate rationale for modifying Peng to achieve the claimed percentage ranges of fibers. (Reply Br. 9). Appellant also contends that the "improved tear strength" taught by Peng addresses a different problem and produces a different result than the "smoother surface" and "fewer 'stand up' fibers" of the present invention. (Reply Br. 9 and 12).

The Examiner contends that Peng has a broad disclosure that completely encompasses the claimed ranges and that it would have been obvious to one of ordinary skill in the art to have selected optimum lengths and proportions from the broader range through routine experimentation.

(Ans. 4-5 and 6-7). The Examiner also contends that the problem addressed by the prior art need not be the same problem addressed by the present invention. (Ans. 7).

Thus, a third issue on appeal arising from the contentions of Appellant and the Examiner is: has the Examiner established that claim 1 is prima facie obvious over the teachings of Peng?

Appellant contends that the claims overcome the prima facie case provided by the Examiner because (a) Peng is not enabled for the broad disclosure beyond what is taught by the examples in Peng (Reply Br. 9-13); (b) the examples and best mode taught by Peng teach away from the claimed invention (Reply Br. 13-14); and (c) Example 1 of Appellant's Specification provides evidence of non-obviousness. (Reply Br. 10).

The Examiner contends that "the teachings of Peng are not limited to what is shown in the examples." (Ans. 6).

Thus, a fourth issue on appeal arising from the contentions of Appellant and the Examiner is: has the Appellant provided sufficient evidence to overcome the Examiner's prima facie case of obviousness?

#### B. FACTUAL FINDINGS

The following additional Findings of Fact are relevant to the above identified issues on appeal:

18. Peng teaches that

the inventive mat comprises a mixture of fibers where from about 0 to about 100 weight % of the fibers have an average length of from about 0.5 to about 60 mm and from about 0 to about 100 weight % of the fibers have an average length of from about 10 to about 150 mm.

(Peng, ¶ 19). About 0.5 to about 60 mm equals about 0.02 to about 2.3 inch, and about 10 to about 150 mm equals about 0.4 to about 5.9 inch.

19. Peng also teaches that

More preferably, the inventive mat comprises from about 20 to about 80 weight % of fibers having an average length of from about 10 to about 45 mm and from about 20 to about 80 weight % of fibers having an average length of from about 30 to about 80 mm.

(Peng, ¶ 19). About 10 to about 45 mm equals about 0.39 to about 1.77 inch, and about 30 to about 80 mm equals about 1.18 to about 3.15 inch.

20. Peng also states that “[t]he fibers can be obtained from commercial sources or made by techniques well known to those skilled in the art.” (Peng, ¶ 19).

21. Peng teaches that

using the differing fiber lengths in conjunction with a polysiloxane compound, lower weight mats can be produced that render similar shingle tear properties as a higher weight mat. The extent of this improvement is dependent on the fiber lengths and the amounts of different fibers employed.

(Peng, ¶ 12).

22. Peng teaches “several methods of making non-woven fiber mats.” (Peng, ¶ 14 and 15).

23. Peng teaches appropriate materials for fibers, which includes “fibers of glass.” (Peng, ¶ 18).

C. PRINCIPLES OF LAW

“[A] prima facie case of obviousness arises when the ranges of a claimed composition overlap the ranges disclosed in the prior art. [Citations omitted.] Where the ‘claimed ranges are completely encompassed by the prior art, the conclusion [that the claims are prima facie obvious] is even more compelling than in cases of mere overlap.’” *In re Harris*, 409 F.3d 1339, 1341 (Fed. Cir. 2005)(quoting *In re Peterson*, 315 F.3d 1325, 1330 (Fed. Cir. 2003)).

Further, an improvement in the art is obvious if “it is likely the product not of innovation but of ordinary skill and common sense.” *KSR Int’l v. Teleflex Inc.*, 127 S. Ct. 1727, 1742 (2007). Optimization of a variable which is recognized in the prior art to be a result effective variable would ordinarily be within the skill in the art. *In re Boesch*, 617 F.2d 272, 276 (CCPA 1980); *see also In re Aller*, 220 F.2d 454, 456 (CCPA 1955) (“where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.”).

A teaching or suggestion of applicant’s problem is not required for a prima facie case of obviousness. An invention may be obvious for reasons the inventor did not contemplate. *See In re Dillon*, 919 F.2d 688, 693 (Fed. Cir. 1990)(“In particular, the statement that a *prima facie* obviousness rejection is not supported if no reference shows or suggests the newly-discovered properties and results of a claimed structure is not the law.”).

In order to establish anticipation, “a prior art disclosure must also be enabling, such that one of ordinary skill in the art could practice the invention without undue experimentation.” *Novo Nordisk Pharm., Inc. v.*

*Bio-Tech. General Corp.*, 424 F.3d 1347, 1355 (Fed. Cir. 2005). The disclosure of particular materials and methods needed to produce the product has been shown to be sufficient to enable the prior art. *Id.* at 1356 (“The [prior art] discloses the production of ripe hGH protein in an enabling manner because it discusses particular materials and a particular methodology (the secretion approach) to produce the hGH protein.”).

Moreover, there is a strong presumption that one of ordinary skill in the art, making adaptations within the skill of the art, would have been enabled by the prior art disclosure to successfully carry out what the reference describes, and Appellant carries a heavy burden in overcoming this presumption. *In re Weber*, 405 F.2d 1403, 1407 (CCPA 1969); *In re Spence*, 261 F.2d 244, 246 (CCPA 1958); *In re Michalek*, 162 F.2d 229, 231-32 (CCPA 1941).

Further, a rejection based on obviousness under 35 U.S.C. § 103 may be made over non-enabled prior art. *Symbol Tech. v. Opticon, Inc.*, 935 F.2d 1569, 1578 (Fed. Cir. 1991)(“While a reference must enable someone to practice the invention in order to anticipate under § 102(b), a non-enabling reference may qualify as prior art for the purpose of determining obviousness under § 103.”)(citations omitted); *See also* Manual of Patent Examining Procedure (MPEP) § 2121.01(II) (Rev. 6, Sept. 2007).

A reference “teaches away” when it suggests that the developments flowing from its disclosures are unlikely to produce the objective of the Appellant’s invention. *See In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994). However, disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure. *In re Susi*, 440 F.2d 442, 446 n.3 (CCPA 1971).

D. ANALYSIS

Applying the preceding legal principles to the Factual Findings in the record of this appeal, we determine that the Examiner has established a prima facie case of obviousness.

We have already determined that the limitation “a reduced amount of ‘stand up fibers’” is indefinite. Yet, Appellants acknowledged that “the term ‘a reduced amount of stand up fibers’ is a property or characteristic of the claimed mats, a result of following the compositional limitations.” (App. Br. 6). In other words, despite the meaning of the phrase, a fibrous mat would have the property or characteristic of “a reduced amount of ‘stand up fibers’” as a result of having the other compositional limitations recited in the claims. As such, the phrase “a reduced amount of ‘stand up fibers’” provides no structural limitation beyond the compositional limitations otherwise recited in claim 1. Thus, to the extent the Examiner has demonstrated that the compositional limitations would have been obvious to one of ordinary skill in the art, “a reduced amount of ‘stand up fibers’” would have necessarily resulted from the obvious composition. Therefore, we can reach a determination regarding obviousness of claim 1 without resorting to speculation or assumptions as to the meaning of the phrase “a reduced amount of ‘stand up fibers.’” *See In re Steele*, 305 F.2d 859, 862 (CCPA 1962) (holding that a rejection based on prior art cannot be based on speculations and assumptions).

Thus, we address the obviousness of the compositional limitations recited in claim 1. Appellants do not contest the Examiner’s contention that the ranges recited in the compositional limitations of claim 1 are encompassed by the ranges disclosed in Peng. (Ans. 4-5; *see* App. Br.



generally). In particular, the disputed range, “about 25 to about 50 wt. percent fibers having a length of less than about 0.4 inch long and about 75 to about 50 wt. percent fibers having a length at least about 0.45 inch long,” is completely encompassed by the ranges disclosed in Peng. (FF 18). Our reviewing court has established that claimed ranges that are completely encompassed by the disclosed range are prima facie obvious. *Harris*, 409 F.3d at 1341.

Further, Peng teaches that it was known in the art to vary the tear strength, as desired, by varying “fiber lengths and the amounts of different fibers employed.” (FF 21). Thus, “fiber lengths and the amounts of different fibers employed,” are known result effective variables, for which optimization by routine experimentation would ordinarily be within the skill in the art. *Boesch*, 617 F.2d at 276; *Aller*, 220 F.2d at 456.

Additionally, a teaching or suggestion of a smoother surface and/or “fewer” stand up fibers (i.e., the problems discussed in Appellant’s Specification) are not required to establish a prima facie case of obviousness, and the teaching of an alternative problem, such as improved tear strength, would have been sufficient. *Dillon*, 919 F.2d at 693.

Thus, notwithstanding the Examiner’s stated motivation, the disputed limitation “about 25 to about 50 wt. percent fibers having a length of less than about 0.4 inch long and about 75 to about 50 wt. percent fibers having a length at least about 0.45 inch long” is prima facie obvious over the teachings of Peng, and the Examiner has established a prima facie case of obviousness as to claim 1.

Additionally, Appellant has not overcome the Examiner’s prima facie case of obviousness. Peng discloses methods and materials sufficient to

teach one of ordinary skill in the art how to make a mat using easily made or commercially acquired fibers within the claimed size and proportion ranges (FF 18, 20, 22 and 23), and Appellant has not adequately shown that Peng is not so enabled. Appellant has provided no evidence, only unsubstantiated attorney argument, that one of ordinary skill in the art would be unable to provide a mat with smaller fibers based on the teachings of Peng. (App. Br. 9-13). Moreover, Peng need not be enabling for us to determine that claim 1 is obvious under 35 U.S.C. § 103, the reference still qualifies as prior art for all that it teaches. *Symbol*, 935 F.2d at 1578.

Also, Peng does not teach away from the claimed ranges, since examples and preferred embodiments do not teach away from a broader disclosure. *See Susi*, 440 F.2d at 446 n.3.

Finally, as discussed above, the comparisons between Example 2 and Example 1 are speculative at best, and lack sufficient data to show a substantial difference between the claimed nonwoven mat and the nonwoven mat taught by Peng. (FF 11-14). Likewise, Example 3 and Example 1 are not compared in Appellant's Specification, and, thus, Examples 3 and Example 1 are not sufficiently distinguished in Appellant's Specification. (FF 15-17).

Therefore, Appellant has not provided sufficient evidence to overcome the Examiner's prima facie case of obviousness. Accordingly, we sustain the Examiner's rejection of claims 1-8, 14 and 15 under 35 U.S.C. § 103(a).

## V. CONCLUSION

The totality of the evidence weighs in favor of the following conclusions:

(1) We do not sustain the Examiner's rejection of claims 1-8, 14, and 15 under 35 U.S.C. § 112, first paragraph;

(2) We sustain the Examiner's rejection of claims 1-8, 14, and 15 under 35 U.S.C. § 112, second paragraph; and

(3) We sustain the Examiner's rejection of claims 1-8, 14, and 15 under 35 U.S.C. § 103(a).

#### VI. DECISION

The decision of the Examiner is affirmed.

#### VII. TIME PERIOD FOR RESPONSE

No time period for taking any subsequent action in connection with this appeal maybe extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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